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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WANG, QUAN ZHEN	
ART UNIT	**PAPER NUMBER**
2613	

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/092,746	FELDMAN ET AL.	
	Examiner	Art Unit	
	Quan-Zhen Wang	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3-10, 12-14, 16 and 18-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-10, 12-14, 16, and 18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 15, 2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 6-7, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (U.S. Patent US 6,423,963 B1).

Regarding claims 1 and 10, Wu discloses a method, comprising: reduce the power level of an optical signal (fig. 1, the Raman pump signal 105; fig. 3, the Raman pump signal 315) propagating in an optical fiber path (fig. 1, fiber 114; fig. 3, fiber 302) in response to the absence of a counter-propagating supervisory signal (fig. 1, supervisory signal 112; fig. 3, supervisory signal 335) in the optical fiber path; and

reducing counter-propagating optical power in response to the absence of the optical signal (column 5, lines 8-12). Wu differs from the claimed invention in that Wu does not specifically discloses that responsive to the loss of the optical signal, reducing counter-propagating optical signal power output from at least one additional network element by a predetermined amount. However, Wu discloses to bring the supervisory signal to an eye-safe level in the event of a cut in the fiber (column 5, lines 8-13). Wu further disclose that one additional network element (fig. 3, signal source 342) input a counter-propagating optical signal (fig. 3, signal 343). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to reducing the counter-propagating optical signal power (fig. 3, signal 343) output from at least one additional network element (fig. 3, signal source 342) by a predetermined amount in order to bring the signal down to an eye-safe level.

Regarding claim 3, Wu further teaches that the step of reducing the power level of the optical signal and the step of reducing counter-propagating optical power are performed substantially at the same time (column 4, lines 8-60).

Regarding claims 6-7, Wu further teaches that the power level of the optical signal is reduced by a predetermined amount such that harm from an optical signal emanating from a fault in the optical transmission line is substantially reduced (column 4, lines 8-60).

Regarding claims 12, Wu further teaches the method further comprising: detecting loss of the optical signal (fig. 3, supervisory receiver 322 and decision block 324) propagating in the optical fiber path at a second network element (fig. 3, element

310); and responsive to the loss of the optical signal, reducing counter-propagating optical power (fig. 3, Raman pump signal 315) output from the second network element (fig. 3, element 310) by a predetermined amount, and the steps are performed substantially at the same time (column 7, lines 12-32).

4. Claims 1, 4-5, 8-10, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maddocks et al. (U.S. Patent US 6,483,616 B1) in view of Rowley et al. (U.S. Patent US 4,833,668).

Regarding claims 1 and 10, Maddocks teaches a method, comprising: detecting loss (column 2, lines 63-67 and column 3, lines 1-15) of a supervisory signal counter-propagating in an optical fiber path (the drawing, optical fiber 6) at a first network element (the drawing, unit 2) reducing the power level (column 3, lines 7-12) of an optical signal propagating in an optical transmission line (the drawing, optical fiber 5) in response to the absence of a counter-propagating supervisory signal (column 3, lines 6-12); and reducing counter-propagating optical power in response to the absence of the optical signal; and reducing counter-propagating pump power supplied output from at least one additional network element (column 2, line 67 to column 3, line 12). Maddocks differs from the claimed invention in that Maddocks does not specifically teach that the supervisory signal is counter-propagating in the same fiber path. However, it is well known in the art to counter-propagate a supervisory signal in the same fiber path for the signal. For example, Rowley discloses counter-propagating a supervisory signal in the same fiber path (fig. 2, supervisory from second station to first

station and detected at first station by supervisory and error detector circuit 16) and carrying out normal fault checks (column 5, lines 27-36) using the supervisory signal. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the system of Maddocks to counter-propagate a supervisory signal in the same fiber, as it is taught by Rowley, in order to quickly detect the fault if there is a fiber break.

Regarding claims 4, the method of Maddocks inherently comprises reducing pump power supplied by at least one pump source (the light signal generated by amplifier 8) coupled to the optical transmission line (the drawing, optical fiber 7).

Regarding claim 5, the method of Maddocks inherently comprises reducing counter-propagating pump power supplied by at least one pump source coupled to the optical transmission line (column 2, line 67 and column 3, lines 1-12).

Regarding claims 8-9, Maddocks further teaches that the method further comprising the step of restoring the power level of the optical signal in response to the presence or a notification of the presence of the counter-propagating supervisory signal (column 3, lines 49-58).

Regarding claims 13-14, the method of Maddocks inherently comprises reducing pump power supplied by at least one pump source coupled to the optical fiber path in the first network element; reducing counter-propagating optical power comprises reducing counter-propagating pump power supplied by at least one pump source coupled to the optical transmission line (column 3, lines 12-35).

5. Claims 16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czarnocha et al. (U.S. Patent US 6,504,630 B1) in view of Rowley et al. (U.S. Patent US 4,833,668).

Regarding claims 16, Czarnocha teaches a network element adapted for use in an optical transmission system, comprising: a first gain element (fig. 1, amplifier 111), for providing an upstream optical signal to an optical transmission line (fig. 1, optical fiber 130); and a controller (fig. 1, CTRL 116), for reducing the power level of the upstream optical signal generated by the first gain element in response to the absence of a counter-propagating supervisory signal (fig. 1, supervisory signal in fiber 131; column 6, lines 4-18); a second gain element (fig. 1, amplifier 112), for providing a counter-propagating downstream optical signal (fig. 1, signal in fiber 131) to an downstream optical fiber path; the controller, for reducing the power level of the counter-propagating downstream optical signal generated by the second gain element to the downstream optical fiber path in response to the loss of an optical signal propagating in the downstream optical fiber path (column 5, line 24 to column 6, line 3. Czarnocha discloses that the controller 126 reduced the optical power output to O2 generated by OA 121 in response to the loss of an optical signal caused by fiber cut 150. The description is applicable to the controller 116 when a fiber cut occurs in fiber 131); the controller, in response to the absence of the counter-propagating supervisory signal, provides an indication to a downstream network element (fig. 1, controller 26; column 6, lines 25-39) that the supervisory signal is absent. Czarnocha differs from the claimed invention in that Czarnocha does not specifically teach that the supervisory signal is

counter-propagating in the upstream optical fiber path. However, it is well known in the art to counter-propagating a supervisory signal in the same fiber path for the signal. For example, Rowley discloses counter-propagating a supervisory signal in the same fiber path (fig. 2, supervisory from second station to first station and detected at first station by supervisory and error detector circuit 16) and carrying out normal fault checks (column 5, lines 27-36) using the supervisory signal. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the system of Czarnocha to counter-propagate a supervisory signal in the upstream optical fiber, as it is taught by Rowley, in order to quickly detect the fault if there is a fiber break.

Regarding claim 18, Czarnocha further teaches that the network element comprises a repeater (fig. 1, OA 111).

Regarding claim 19, the gain element (fig. 1, amplifier OA 111) inherently comprises at least one of an optical amplifier and a pump source.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (U.S. Patent US 6,423,963 B1) in view of Czarnocha et al. (U.S. Patent US 6,504,630 B1).

Regarding claim 20, Wu discloses a light communication system (fig. 3, system 300) having a plurality of network elements (fig. 3, nodes 310 and 330) for supplying an optical signal adapted for transmission in an optical path, and apparatus for controlling power of an optical signal propagating in the optical fiber path comprising: means for

detecting loss of a supervisory signal (fig. 3, supervisory receiver 322) counter-propagating in the optical fiber path; and a first automatic power reduction circuit (fig. 3, Raman pump 316) for reducing the power level of an optical signal output to the optical fiber path form a first network element by a predetermined amount in response to the loss of the supervisory signal in the optical path (column 7, lines 12-32); means for detecting loss of the optical signal propagating in the optical fiber path; and a second automatic power reduction circuit for reducing counter-propagating optical power output from a second network element by a predetermined amount in response to the loss of the optical signal (column 5, lines 8-14). Wu differs from the claimed invention in that Wu does not specifically disclose that a controller, in response to the absence of the counter-propagating supervisory signal, provides an indication to a third network element that the supervisory signal is absent. However, it is well known in the art that a controller, in response to the absence of the counter-propagating supervisory signal, provides an indication to a third network element that the supervisory signal is absent. For example, Czarnocha discloses that a controller, in response to the absence of the counter-propagating supervisory signal, provides an indication to a third network element that the supervisory signal is absent (column 6. lines 33-39). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate a controller of Czarnocha in the system of Wu and configure the controller, in response to the absence of the counter-propagating supervisory signal, provides an indication to a third network element that the

supervisory signal is absent in order to provide the appropriate message through the system for the user.

Response to Arguments

7. Applicant's arguments on claims 1, 4-5, 8-10, 13-16, 18, and 19, rejected under 35 U.S.C. 103(a), have been fully considered but they are not persuasive.

Applicant argues "Maddocks et al. teaches using identifier signal in the supervisory signal to indicate a break in or damage to the fiber and teaches away from reducing power in response to the absence of a counter-propagating supervisory signal", and "Rowley is silent on reducing power of the transmitter in response to the absence of a counter-propagating supervisory signal in the optical fiber path". In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). For the instant case, Maddocks discloses to reduce power in response to the absence of a counter-propagating supervisory signal. Maddocks differs from the claimed invention in that Maddocks does not specifically teach that the supervisory signal is counter-propagating in the same fiber path. However, it is well known in the art to counter-propagate a supervisory signal in the same fiber path for the signal. As an example, Rowley is cited to show that counter-propagating a supervisory signal in the same fiber path (fig. 2, supervisory from second station to first station and detected at first station

by supervisory and error detector circuit 16) and carrying out normal fault checks (column 5, lines 27-36) using the supervisory signal is well known in the art. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to configure the system of Maddocks to counter-propagate a supervisory signal in the same fiber, as it is taught by Rowley, in order to quickly detect the fault if there is a fiber break. The combination of Maddocks and Rowley clearly discloses every limitation of claims 1, 4-5, 8-10, 13-16, 18, and 19, therefore, the rejections of claims 1, 4-5, 8-10, 13-16, 18, and 19 still stand.

8. Applicant's other arguments filed June 15, 2006 have been fully considered but are moot in view of the new ground(s) of rejection.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoneyama (U.S. Patent US 5,535,037) discloses an optical repeater which transmits a response signal counter-propagating in the fiber path.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw
8/8/2006

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